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AMATEUR RADIO



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Divisional Addresses:-

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Magazine Committee:-

Editor—W. R. GRONOW (VK3WG).

Technical Editor—R. H. CUNNINGHAM (VK3ML); Notes—C. SERLE (VK3RX);

Compilation—V. E. MARSHALL (VK3UK);

Secretary—POWERS (VK3PS)

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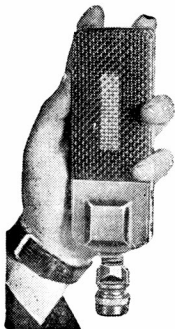
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We have small supplies of this carbon in stock, of the Polished Granule Type which we can sell to Amateurs only at 12/6 an ounce nett.

EDITORIAL . . .

The old, old Phone-CW controversy has broken out again with a fiery vigour intensified after a few months' respite. This time, however, it seems that the weight of opinion is sufficiently strong to assume that some action will be taken after the Federal Convention. Obviously more than one State will suggest the item for the agenda of the Convention so a survey of the position is timely.

In the first place, let it be said that we, the Editors, are not essentially 'phone men, but are definitely sympathetic towards phone, correctly operated. Not because we, in any way, condone the phone hash that exists on some of our bands, any more than the most rabid CW man, but purely because we contend that the field of legitimate experiment on phone is wider, if anything, than that of CW. (We are, of course, leaving UHF work out of the discussion.) Quite important also is the fact that the genuine phone experimenters are relatively small in number, and through that numerical weakness they may perhaps stand to lose something that is rightly theirs—the right to experiment on phone without hampering restrictions. Remember this, you CW man, the Phone man has as much right to those bands as you have, provided he observes the regulations as you yourself should. You may bring up that old, old argument about a Phone channel occupying the space of three or four CW stations. That is certainly so, but the number of genuine Phone men is far below 25 per cent., in fact, it is more like 5 per cent., of the number of active CW men. Therefore, the QRM that they cause is only a reasonable percentage of the total.

Why not listen to the hash on 20 or 40, you CW men ask? Believe us, it is quite as bad for us as for you, but not 1 per cent. of it is caused by the men we stand behind—the genuine Phone experimenter. We agree with you on the subject of pseudo B class stations, of rubbish

spoken over the "mike" by 2nd, 3rd, 4th and sometimes 5th "ops." Personally, we would penalise a man severely if he showed that he could not use his microphone in accordance with the regulations, let alone within the basic dictates of common sense. He might then come down to the level of we mere Hams, and realise, if he was not previously aware of the fact, that there is a laid down procedure governing R/T as well as W/T.

The other main complaint you CW men have is that of bad phone. We agree that this matter, coupled with the previous one, cover the best part of the trouble, and if they are cleared the residue would be at least bearable. This matter of bad phone is a strange one in this respect, that whilst the CW man curses it, the genuine Phone man affirms that he, the CW man, causes 90 per cent. of it through using improvised equipment. Our own enquiries into the matter lead us to definitely agree with the Phone men's stand.

Our considered opinion on the trouble is this—NOT ONE THOUGHT SHOULD BE GIVEN TO FURTHER RESTRICTION ON PHONE OPERATION. Our reasons? In one sentence, they are that the Phone men are already restricted and the existing regulations provide the necessary power to control the position adequately. Our State Vigilance Committees are doing wonderful work, and the mere fact that they work quietly and without an ostentatious display of power is the very reason why each and every Ham should have complete confidence in them. Their existence is to "correct" not "compel" but they can recommend the Department to compel if a warning goes unheeded. Give them a chance to work on this matter, give them your co-operation in an unenviable task, but don't, for heaven's sake, press for more restriction when the Institute sought Vigilance Committees to control the very sort of trouble that has now arisen.

Now, whilst the columns of "Amateur Radio" are available to all to express their views, at any rate to

(Continued on Page 11.)

“Haywire or Dress”

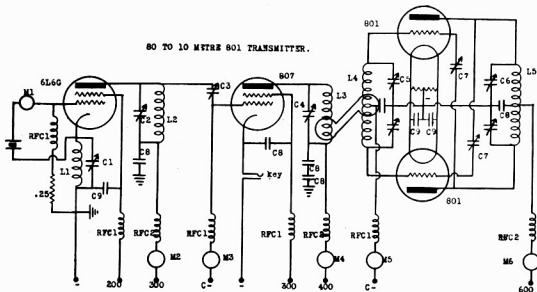
(By VK3ML, Technical Editor.)

This article does not represent an original design or one containing unique features. Standard practice has been adopted in the layout in order that it would work immediately after the soldering iron had been dismissed. Many trick circuits in receiver and transmitter design have been used by the writer at various times with just passible success. Sticking to a standard has always produced results first go and relieves one of many worries.

The main idea in presenting this contribution is then one of endeavouring to see what could be done with modern gear and circuits in order that maximum efficiency may be attained. “Dress” or finish was desired just because it was considered that a job should look as well as it works, if possible. Sufficient instruments were incorporated where necessary to check the performance of the transmitter.

The circuit as seen from Fig. 1 is just our Tri-tet C.O. 807 buffer and a pair of 801's in push pull in the

80 TO 10 METRE 801 TRANSMITTER.



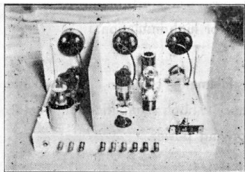
- C1. 0.00025 mfd variable.
- C2. 0.0001 mfd variable.
- C3. 0.0001 mfd variable
- C4. 0.0001 mfd. variable.
- C5. 50 x 50 mmfd split stator.
- C6. 50 x 50 mmfd split stator.
- C7. 15 mmfd spaced midgets.
- C8. 0.002 mfd mica.
- C9. 0.01 mfd mica.
- RFC 1. 1.25 millihenries.
- RFC 2. 1.5 millihenries.
- M1. 60 milliamp pea lamp fuse.
- M2. 0-100 mills
- M3. 0-25 mills.
- M4. 0-100 mills.
- M5. 0-50 mills.
- M6. 0-250 mills.

- L1. 7 turns 18 swg wound on Eddystone 935 former spaced one diam.
- L2. 7 turns 18 swg wound on Eddystone 935 former spaced one diam.
- L3. 6 turns 18 swg. wound on Eddystone 935 former spaced one diam.
- L4. 10 turns 18 swg wound on Eddystone 1003 former spaced one diam.
- L5. 7 turns 1/8th copper tube spaced half inch.

N.B.—These specifications are for 14 mc operation with either a 7 or 3.5 mc crystal.

P.A. Excitation control from the oscillator to the buffer stage is well in hand, per medium of the 100 m.mfd. Microdenser in the 807 grid lead. The link to the 801 grids is wound on the plug in formers for ease in band changing. Not shown in the photograph (Fig. 2) there is mounted a 10 way crystal holder behind the pea lamp fuse on the back edge of the chassis. Now that these features have been covered in a few words, let us get on with the design and construction part of the job.

Aluminium panels and chassis are employed, and are made of 18 gauge metal. The dimensions of the panels

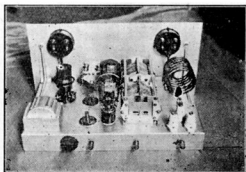


are 19 x 9in. and the chassis 17 x 10, with a turnover of 2 inches. Bending of the chassis is an easy job if it has not been tackled before, and requires only the required lengths of angle iron and a strong vice. The process is as follows: Mark off with a pen knife or scriber where the bend over is to take place. One of the angle iron pieces needs to be just a $\frac{1}{4}$ inch less in length than the distance between the scribes lines, the other may be any length as long as it is longer than the lines. Place the aluminium to be treated in the vice in between the iron pieces, with the shorter one to the front. After carefully setting the marked line parallel with the flat of the angle iron clamp the vice home. Now press the sheet over to the front with a heavy piece of board from the back so that the entire length of the chassis to be is bent over. This avoids any chance of uneven bending. When as flat as can be by the hand pressing operation the process should be finished by hammering down on the board in the customary manner. A hammer should not be used direct on the metal otherwise hammer marks will leave ugly im-

pressions. The remaining other three sides are similarly treated. It should have been mentioned that it is, of course, necessary to cut out the corners before bending. The finishing touches are put on the chassis and rear of the panel by the aluminium spray method as described in this magazine by Dick Dyer some little time ago. Scratches and other marks are well covered, giving a clean but matt appearance.

The writer is the proud possessor of a kit of socket hole punches, but in the old days a leather washer was used in the brace, and holes were dug out by brute force. The matter of meter holes is dealt with by means of a tank cutter bit, which is obtainable anywhere. Careful and accurate work in the metal section is necessary because the slightest mistake spells disaster to appearance.

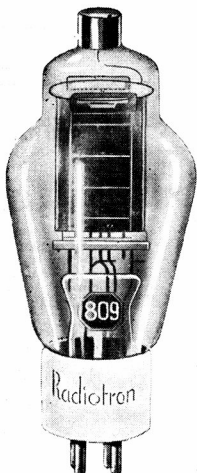
Taking the exciter stage first, we see from Fig. 2 that the 6L6G is on the right and the 807 on the left. The coils are wound on plug in formers and fit into top-chassis-type



Frequentite sockets. This keeps the RF above the chassis and avoids the necessity of having to come up through the metal to wire to the tuning condenser. Unfortunately not very plainly seen in the picture, are mounted the variable condensers on adjustable insulated brackets. Perfect insulation of the rotor from the chassis and panel can be had by this simple component in conjunction with the flexible insulated couplers. The spacing of the components was so arranged that short and direct leads would result. The small knob and dial in front of the 6L6G plate coil is the excitation control condenser to the grid of the 807. The dials

RADIOTRON 809

for ultra high frequency



FEATURES:

Ultra High Frequency operation. Full ratings up to 60 M.C. Ceramic base for low losses. Plate brought out at top of bulb for high insulation.

High Filament emission. High Plate efficiency. High Amplification factor. Low driving power.

Suitable for Class "B" Audio Amplifier or Modulator. High "mu" and low bias.

At a price of 25/- nett Radiotron 809 gives MORE WATTS FOR YOUR MONEY.

Ratings—Class "C" Telegraphy.

Filament (max.)	6.3 volts	2.5 amp.
Plate Voltage (max.)	750 volts	
Plate Current (max.)	100 mA.	
Plate Dissipation (max.)	25 W.	
Typical Power Output	55 W.	

Price **25'-** nett.

RADIOTRONS

(Advertisement of Amalgamated Wireless Valve Co. Pty. Ltd.)

used throughout are the Eddystone slow motion type, the aluminium plates of which offset the specially treated panel.

Fig. 3 shows clearly the layout of the P.A. 801 stage. A small filament transformer is mounted on the chassis, the power outlet for which is carried at the back terminal strip.

The layout provides for symmetry from the electrical point of view in that the tuning condenser, anodes of the tubes and the tank coil all lie in line. Small 15 mmfd frequentite condensers are used for the neutralising of the 801s and the dials for adjustment come up through the chassis in front of each 801. The two stand-off insulators near the tank coil are for mounting the link coupling aerial coil. A separate tuner is employed for feeding the Zepp.

The performance of this transmitter is remarkable and outputs down to 28mc exceeded the budgeted amount. It might be said that the hardest part in building a transmitter is in the design, choice of components, and layouts adopted. These steps take the most time, but one is well repaid in the long run.

Station Description

VK5LG, IRON KNOB, CENTRAL SOUTH AUSTRALIA.

VK5LG was officially born on 13th December, 1932, but, as the op. here was one of the first members of the S.A. Division W.I.A. in the days of 5BG, 5FT, 5AE, 5BN, 5HY, etc., and the certificate of membership is numbered "28," I think I can claim to be an old-timer at the game. It was way back in those days that 5LG, under quite another call-sign altogether—nuff sed!—successfully pushed 5-metre signals from his QRA to a distance of four miles, of course, using raw A.C. and a straight regen rx as fone and super-regen on 5 were unheard of at that time of nearly 15 years ago.

The first rig used at 5LG was a T.P.T.G. with a TBO 4/10 tube. However, this was followed by a pair of 45/s in the push-pull version of the TPTG.

With this small job four continents were quickly rattled off, only

the South American being wanted for W.A.C.; in fact, he is still hanging out on his QSL, hi!

The 45's going soft under about 50 watts, 10's were used, and before they suffered the same fate LG was able to prove that "it's all in the building" by removing all his filter condensers and chokes from the power pack and still getting PDC xtal reports. Ask old 5WP if he remembers!

The urge for modernisation and efficiency caused xtal to be thought of, so a rock was borrowed from a nearby ham. However, this particular slab evidently came from Switzerland, because it "skipped from peak to peak" quite blithely, and this was far too much for any set, so until a decent xtal was obtained the sig. became a M.O.P.A.

The op. after a while was sent to Whyalla, and from there to Iron Knob, and until his present home was built lived in a tent, plus wire and radio gear, and so learned the joys of QRP, batteries, and semi-portable operation.

Now 5LG is in its present, and we hope permanent, home. The lay-out is as follows:—27 TPTG osc., 35 buffer and f.d. linked to a pair of E406 tubes in parallel; various antennae have been tried, but always the old reliable Zepp feed has been the main standby. Separate power supplies are used to all stages, as with self-excited rigs. The op. believes this is a necessity for stability. An absorption type wavemeter acts as a rough blinker check on frequency, while for accurate work an electron-coupled freq. meter monitor is used, and as the operating table is 6 ft. from the rack and panel park it is quite reliable enough for anything. The receiver is a 3 or 4 valve TRF 6D6, 6C6, 76 and 42 occasionally, as static, etc., allows.

The input to the final stage line, voltage permitting, is about 49.5 watts!

VK5LG is a member of W.I.A., and either he or Mrs. 5LG will always chew socks with anybody at any time, provided condx allow.

Other interests consist of keeping pedigreed Collie dogs out of mischief, swimming, golf, or rifle shooting, and I am a boilermaker and electric arc welder by trade.

Radiotron 809

R-F Power Amplifier, Oscillator, Class B Modulator.

Radiotron 809 is a three-electrode transmitting valve of the high-mu type for use as a radio-frequency amplifier, oscillator, or Class B modulator. Because of its high pervance, the 809 can be operated at high plate efficiency with low driving power. The plate connection is brought out through a separate seal at the top of the bulb to provide high insulation. The internal structure of the 809 permits operation of the maximum ratings at frequencies as high as 60 megacycles. The maximum plate dissipation is 25 watts for Class C telegraph and Class B services. Radiotron 809 is equipped with a ceramic base.

Tentative Characteristics and Ratings. Filament Voltage (A.C.

or D.C.) ..	6.3 Volts
Filament Current ..	2.5 Amperes
Amplification Factor..	50
Direct Interelectrode Capacitances—	
Grid-Plate ..	5.7 uuf
Grid-Filament ..	6.7 uuf
Plate-Filament ..	0.9 uuf
Bulb ..	ST-19

Base, Medium 4-Pin Ceramic, Bayonet

Maximum Ratings and Typical

Operating Conditions.

As A-F Power Amplifier and Modulator—Class B.

D-C Plate Voltage—	750 max. Volts
Max.-Signal D-C Plate Current*—	100 max. Milliampères
Max.-Signal Plate Input*—	75 max. Watts
Plate Dissipation*—	25 max. Watts

Typical Operation.

Unless otherwise specified, values are for 2 valves.

D-C Plate Voltage—	500 750 Volts
D-C Grid Voltage†—	0 —5 Volts
Peak A-F Grid-to-Grid Voltage—	135 140 Volts
Zero-Sig. D-C Plate Current—	40 35 Milliampères
Max.-Sig. D-C Plate Current—	200 200 Milliampères

Load Resistance (per tube)—	1300 2100 Ohms
-----------------------------	----------------

Effective Load Resistance

(Plate-to-Plate)—	5200 8400 Ohms
Max.-Sig. Driving Power (approx)—	2.4 2.4 Watts
Max.-Sig Power Output (approx)—	60 100 Watts

*Averaged over any audio-frequency cycle of sine-wave form.

†Grid voltages are given with respect to the mid-point of filament operated on A.C. If D.C. is used, each stated value of grid voltage should be decreased by 4.5 volts and the circuit returns made to the negative end of the filament.

As R-F Power Amplifier— Class B Telephony.

Carrier conditions per valve for use with a max. modulation factor of 1.0.

D-C Plate Voltage—	750 max. Volts.
D-C Plate Current—	50 max. Milliampères
Plate Input—	37.5 max. Watts
D-C Plate Voltage—	750 max. Volts
D-C Grid Voltage—	—200 max. Volts
D-C Plate Current—	100 max. Milliampères
D-C Grid Current—	35 max. Milliampères
Plate Input—	75 max. Watts
Plate Dissipation—	25 max. Watts

Typical Operation:

D-C Plate Voltage—	500 750 Volts
D-C Grid Voltage—	—50 —60 Volts
Peak R-F Grid Voltage—	135 140 Volts
D-C Plate Current—	100 100 Milliampères
D-C Grid Current (approx.)*—	20 20 Milliampères
Driving Power (approx.)—	2.5 2.5 Watts

Power Output (approx.)—

35 55 Watts

†Grid voltages are given with respect to the mid-point of filament operated on A.C. If D.C. is used, each stated value of grid voltage should be decreased by 4.5 volts and the circuit returns made to the negative end of the filament.

**At crest of audio-frequency cycle with modulation factor of 1.0.

*Subject to wide variations depending on the impedance of the load circuit. High-impedance load circuits require more grid current and driving power to obtain the desired output. Low-impedance circuits need less grid current and driving power, but plate-circuit efficiency is sacrificed. The driving stage should be capable of delivering considerably more than the required driving power.

‡Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

Plate Dissipation—

25 max. Watts

Typical Operation:

D-C Plate Voltage—

500 750 Volts

D-C Grid Voltage†—

—5 —10 Volts

Peak R-F Grid Voltage—

35 40 Volts

D-C Plate Current—

50 50 Milliamperes

D-C Grid Current (approx.)*—

6 5 Milliamperes

Driving Power (approx.):**—

1.4 1.5 Watts

Power Output (approx.)—

7.5 12.5 Watts

As Plate-Modulated R-F Power Amplifier—Class C Telephony.

Carrier conditions per valve for use with a max. modulation factor of 1.0.

D-C Plate Voltage—

600 max. Volts

D-C Grid Voltage—

—200 max. Volts

D-C Plate Current—

83 max. Milliamperes

D-C Grid Current—

35 max. Milliamperes

Plate Input—

50 max. Watts

Plate Dissipation—

17.5 max. Watts

Typical Operation:

D-C Plate Voltage—

500 600 Volts

D-C Grid Voltage—

—160 —160 Volts

Peak R-F Grid Voltage—

250 250 Volts

D-C Plate Current—

83 83 Milliamperes

D-C Grid Current (approx.)*—

32 32 Milliamperes

Driving Power (approx.)*—

7.2 7.2 Watts

Power Output (approx.)—

30 38 Watts

As R-F Power Amplifier and Oscillator—Class C Telephony.

Key-down conditions per valve without modulation.‡

CHART OF RADIOTRON "G" VALVES.

A new chart giving ready reference to the complete series of "G" valves, now obtainable in the Radiotron range, has been released by Amalgamated Wireless Valve Co. Pty. Ltd., and supplies are now available. The matter dealt with covers details of the base, socket connections, the exact equivalent type in the ordinary glass series, and in certain cases also an approximate equivalent. In cases where the types are not exact equivalents remarks are made defining the points of difference. A diagram of sockets connections is given for each type, while in addition the three standard Electron Ray Tuning Indicators—6E5, 6G5 and 6U5—which, although not octal based, are used as standard equipment, are also included. Types which are of Australian manufacture are suitably marked in the chart, which procedure will be adopted in respect of future Australian releases. This Radiotron chart measures 12½" x 10", is presented in new form, and provides a very handy reference to all these new valves. For the electrical characteristics reference may be made to the data available on the exact equivalent types. In cases where exact equivalent types are given, the characteristics may be treated for all practical purposes as being identical, although there will be slight differences, such as in interelectrode capacitances, due to the different base. The "G" type valves are 1-16" shorter

(Continued on Page 11.)

808 as a Doubling Final

Good Output on 56 MC.

(By E. H. Cox, VK2GU.)

A new and highly promising field for high quality stabilised transmission on the five metre band was provided about a year ago, when RCA produced the type 808 triode. The recent substantial reduction in the price of this tube has made it much more freely available in Australia than any other high efficiency high frequency tube of medium power capability has ever been before, and because of its extremely fine performance on five metres, the following notes on the results easily to be obtained from it may be of interest.

It will be recalled that some of the best of the pioneering work on the ten metre band with frequency stabilised sets was accomplished by running the final tube of the transmitter as a frequency doubler. In this regard the work of VK4BB was outstanding. In doubling from ten metres to five metres, in recent experiments, the writer has found the type 808 to be so vastly superior in performance to any other tube of which he has had experience for this purpose that it becomes easily possible to employ it as a doubling final to five metres with an efficiency factor comparable to that of many older types when run as a "straight" neutralised amplifier on the 14 MC band. As in all doubling arrangements, success depends primarily on the use of considerable drive and high negative bias. The high amplification factor of the tube, and its admirable high frequency construction provide the other factors necessary.

The five metre doubling stage at present in use by the writer employs an 808 in a perfectly conventional doubling circuit. No fixed bias is used, and the necessary grid bias is obtained by the voltage drop over a grid resistor of about 35,000 ohms. With this resistor, the tube is excited to a rectified grid current of about 20 mls., and therefore to a grid voltage of about minus 700. At

a plate pressure of 1000 volts, the resonance dip in the doubling stage is from considerably more than 100 mls (the metre is off scale off resonance) down to 13 mls when the plate circuit is tuned to twice the frequency of the grid circuit. No regeneration is necessary to produce this result. Loaded with the antenna, or the grids of a following stage to 70 mls plate current, the tube remains entirely happy. A static dissipation test has revealed that the first faint traces of plate colour appear at a plate dissipation of about 20 watts in the case of the 808, and this colour just shows at 70 watts input. It is thus evident that, provided there is no loss of high frequency power into the power supply leads, the 808 run as a doubler from ten metres to five metres is easily capable of delivering about 50 watts of stabilised high frequency power to an antenna on 56 MC under operating conditions, which are nearly all well within ratings. The only rating exceeded is the grid input rating, but under the conditions described, the tube has been run for many hours without the slightest trace of trouble. In our case the five metre doubling stage is excited by another 808 operating as a doubler from 20 metres to ten metres with about 30 watts plate input. This arrangement is one of convenience, and a much smaller tube could obviously be used as the doubling exciter. Although not tested here, the new 809 appears to be an ideal tube for the role of doubling exciter.

The use of the 808 as a final for five metre operation under doubling conditions has the important advantage of dispensing with neutralising. Though a "push pull" final may be readily neutralised on five MX, it has been the writer's experience that even under the best attainable conditions, the neutralisation of a single ended stage at 56 MC is generally tricky. It readily permits of the

construction of a four stage transmitter to give good 56 MC output from a 40 metre crystal, or if one is prepared to use a "tritit" oscillator stage the same output should be attainable with three stages by a slight sacrifice of efficiency in the doubler driver preceding the final.

The 808 when run as a doubler resonates nicely into a tank of three turns of 12 Swg wire two inches in diameter, with one-eighth inch spacing between turns, and tuned by a 35 mmfd Polar double spaced mid-ge. Seven turns of the same wire, two inches in diameter, one and a half inches long, and tuned with almost anything that happens to be handy will look after the grid circuit of the stage.

SOMETHING NEW IN THE EDDY-STONE RANGE.

An announcement has already been made of the new range of Eddystone transmitting condensers for the ham, and we can expect supplies almost immediately now. The new catalogue shows a new precision dial, which will solve the frequency meter problem. It is catalogued as No. 1085 at the nett price of 26/-. The dial diameter is 4 inches, and has a nickel-plated scale capable of being read to one-tenth of a division. Slow motion gearing provides a reduction of 6 to 1. It is ideal for high-class test and lab. equipment. Stocks are available immediately.

(Continued from Page 9.)

overall than the equivalent glass types. There are 49 "G" types included in this chart, from which it is evident that a complete selection may be made for the equipment of any radio receiver. Supplies of the Radiotron "G" Valve Chart are

available from the Unified Sales-Engineering Service of Amalgamated Wireless Valve Co. Pty. Ltd., or from Radiotron wholesalers.

Editorial Continued . . .

the extent of available space, here are a few "don'ts." Don't write in and say that phone has driven you off 7mc and clamor for the American Ban on this band. With phone prohibited there they are still trying to stage a "back to 7mc drive." Don't say what is good enough for the Yanks is good enough for us, and say that 14mc phone should be restricted to the American phone limits. There are over 50,000 Hams in U.S.A., and a mere 2000 in Australia, so how can conditions be even remotely similar? Don't say that Ham phone is useless and banning it would be the best course—could you imagine anything more senseless and useless than that inspired "ur sigs RST . . . QRU pse QSL" formula so beloved of the DX CW man?

And at your Institute meetings, before you urge further restrictions, consider these points. Firstly, that your aim should be for the good of Amateur Radio as a whole. Secondly, that through the co-operation of the P.M.G.'s Department you have State Vigilance Committees who are in existence for the very object of cleaning up your bands without the imposition of any further restriction on you. Thirdly, remember that every Ham who is worthy of the name, be he a CW man or a genuine phone man, is as anxious to clean up the mess as you are, not only from his own angle and viewpoint, but also from the SWL angle and the damage that irresponsibles can do to the name of Amateur Radio—your Hobby.

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VK2ABL

(By Les Tanner)

VK2ABL, of Canley Vale, has been on the air since September, 1937. Starting with the 58-58 transmitter described in "Amateur Radio," October, 1937, many local chaps were worked and we dx, being VS7, FU8, VK6 es all ZL on 14 mc and XU7 all VK and ZL on 7 mc.

Things have altered now, however. As the receiver wouldn't work well on 28 mc it was decided to rebuild, using 34 det. and 30 audio, which is giving very fine results.

The present transmitter is 57 E.C. osc. with the grid on 1765.7 KC and plate on 3531.4 KC, followed by 58 as frequency doubler to 7062.8 KC, followed by another 58 as Power Amplifier on 7 MC and doubler to 14 MC. The power input is 4.9 watts and the aerial is 66ft. matched impedance 20ft. high one end to 25ft. at the other end.

The oscillator grid circuit is tuned by a 7 plate Isolantite base padding condenser. By doing this the advantages of xtal are almost obtained with more power output.

When using the transmitter on 3.5 MC the doubler stage is cut out of circuit, and is only used on 7 and 14 MC. The oscillator, however, is always used as a doubler as well. The output on 3.5 and 7 MC is sufficient to blow a 3.5V. pea lamp, but as the final stage is used as a doubler on 14 MC the output is only about half the amount obtainable on the lower frequencies.

The power supply is the standard B.C.L. gear, delivering 350V. 60 MC. The three stages are run off one pack here, and the backwave is exactly on the same frequency as the keyed wave.

The supply for the receiver is obtained from a Philips Eliminator, which delivers 180V nicely.

Phone experiments are conducted on a dummy aerial here, as no phone permit is held, and I hope to send results to "A.R." soon. Phone hounds, note!

In conclusion, I will say that VK2ABL is a radio mechanic of 22 years of age, and has a wife and two children, and is strictly C.W. only.

A Farewell

On Saturday evening, 5th February, VK's 3OR, BM, TL, KI, CD, TS, FF, IH, HX and friends of Ken Rankin (VK3KR) gathered at a dinner at Kerang to wish farewell to Ken on the eve of his departure for Melbourne, where he had joined a leading Radio and Electrical House.

The outstanding feature of the gathering was the sincere regret expressed by the speakers of the loss of Ken in the district, but all were sure that he was making the right step, and before long he would rise to higher position.

Murray Orr (VK3OR) officiated very capably as chairman, and proposed the Loyal toast.

Dr. Pook proposed the toast to the Wireless Institute, which was responded to by T. D. Hogan (VK3HX).

Mr. R. E. Trebilcock (VK3TL) then proposed the toast to the P.M.G. Department Wireless Branch, remarking on the very friendly relations between the Department and the Hams. Mr. R. Locke, senior mechanic at Kerang, responded on behalf of the department.

The chairman then proposed the toast to the Guest (VK3KR), and practically everyone present supported. Mr. Vin Trebilcock then presented Ken with a small cheque.

Ken, arising amid applause to respond, in a lengthy and eloquent speech, thanked everyone for coming to the function and for the cheque, with which he would buy himself a memento of the occasion.

Ken then proposed the toast to the Chairman, Murray responding, and with the singing of Auld Lang Syne the gathering broke up.

.....

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AND MENTION
"AMATEUR RADIO"**

.....

Correspondence

5LG SAYS HIS CONSCIENCE IS CLEAR.

Sir,—Having received a few complaints of no qsls, I would be obliged if you would find space in your magazine to announce the fact that VK5LG is a 100 per cent. qsl station. I invariably use the QSL Bureau of the W.I.A. as a medium of despatch of cards, occasionally reverting to direct post. If any ham who has been qso my station has not received my card I will forward another on request. However, enquiry with the local QSL Officer will probably show up the long lost article. — Yours faithfully,

LEITH S. COTTON, VK5LG.
Iron Knob, S.A.

The Editor, Amateur Radio.

Sir,—The letter published in February issue signed by "Old Hombre" contains a deal of commonsense.

It is my personal opinion that those of us who use phone should get our house in order. This peculiar idea of using a microphone slang is one which has grown considerably of late, and unless checked will undermine the dignity of the users of Radio Telephony in general.

The use of the phone has a very large field wide open to the correct type of experimental work, and the silly stuff which is frequently put over by some does not help to raise the opinion held by a listening public of amateur activities; in fact, a number must wonder why we exist.

It is sincerely hoped that the recent formation of the Short Wave

Phone Section in Victoria will help to put a more serious vein into experimental phone activities.—Yours faithfully,

H. KINGSLEY LOVE, VK3KU.

The Editor, Amateur Radio.

Sir,—I know a fellow ham, answering to the call of VK3TS, who is unaware of this letter to you. Some little time ago he was trying a new type of crystal oscillator, and it unfortunately played up a bit, with the result that the note was not good. He happened to be heard by a member of the Victorian Vigilance Committee, and duly received a form from the member including one from the department. Tom told me of this, and he took the whole affair as a real ham would. Now I know for a fact that Tom is most careful when adjusting his rig and takes pains to avoid possible trouble to others. I can't speak too highly of Tom in this respect. To-day I heard the same Vigilance Committee member who heard Tom and his signal was RST 574 and spattering all over the band. Now I feel that this type of report does not allow any latitude for real experimentation. Furthermore, I think it was a bit tough on Tom, as he is not a persistent offender. I am not anxious to reflect on the Vigilance member concerned, as he no doubt was just as unaware of his breach of the rules as was Tom. Our experimental licences surely permit some latitude when carrying out tests of this nature.—Yours faithfully,

G. DOWNING, VK3GD.

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"Air Raider" Carries the Torch

Dear fellow hams—

Seeing that old "QRZ" has fallen down on his job, I have undertaken to continue at the risk of my good name. "QRZ" was tough on offenders with punk notes, etc., but maybe I'll be a little tougher. Those under discussion need not tear their hair, because I'll only laugh. Well here goes for the first batch.—Stand by lads!

3FS.—Has a harmonic on 14 mc. It's very nice to listen to OM, but why not confine it to 7 mc, the band you work on—or have you gone to 14 mc?

2YM.—Getting a shade excited while QSO K5AN and as a result slips a few extra dots in with the bug for good measure. Think before you send OM, your bug is too far ahead. A monitor should be O.K.

3CG.—Telling 3TI that his power is 12 watts. OK boy, but why the near DC "splash"? Sounds like a s.e. rig that is all haywire.

3JI.—Another "splasher" with a chirpy DC "bubbly" note (quite a lot of these ancient notes lately—perhaps ham radio isn't going so modern). Why not try C.C. OM, it's cheap enough and sounds a heap better.

2YY.—Thinks he's a commercial by the way he fiddles with his bug sending the V's. Why not get a "V" wheel son, it would save you a lot of energy.

2IW.—Ah, this lad must be a commercial, heard him QSO VJ? Judging by the way he's sending on that bug, he's the only one who can tell what he's sending. A rotten note too. What about a filter instead of the xtal A.C. OM? Also suggest some practice on the bug—in private.

3ZB.—Has a nice T9 note, but the sig. has a tail as big as a kangaroo. I have heard you better, OM.

3VF.—Lost his nice T9 note and replaces it with a ripply DC note that really does splash about. I notice W4EMK had a T9 sig. Take the short off the filter, OM.

2ADE.—Also has a slight buzz to his xtal sig. possibly just for the BERU contest. Whamor OM?

3OC.—Seems to be afraid to press a little harder on his key, the dots

"chip" a little instead of being clean cut. Also reminds me of a funeral while calling CQ. I suppose you must key the Xtal.

3EF.—One of those "oke-doke" fone guys who wants a "cq" record of his voice. Try some Irish Moss for the throat OM.

3NG.—Must have 2 separate rigs. One shoves out a questionable T9 note with plenty of spread, but judging by the sound of rig No. 2 its a diathermy outfit with an aerial coupled. Your fone also sounds punk and breaks badly in zero beat, sounds like suppressor modulation. Clean it up a bit OM, more filter and a small buffer stage. They tell me it is even worse locally.

3LA.—Is still modulating about 200 per cent. with poor quality fone on 14 mc., why not take a lesson from a few of those W's you work son. A monitor is also handy.

3XD.—Has a nice hefty carrier, but only modulates it about 50 per cent. Your speech leaves much to be desired OM, also your music, anyway why not pump your music into a dummy antenna? Don't leave your carrier run for an hour too often XD.

3IW.—Sounds like another "suppressor" fone station, also busts up in zero beat, but your cw is nice OM.

3LX.—Now this guy pumps out records on 14 mc during a contest. "Wake Up and Live" boy! Sounds as though you were using loop modulation, even tho you weren't. Why not an antenna, DUMMY?

3QR.—The "happy station" on 176 meters, beats all the boys. If you want to hear real broadcast mimicry, try 3QR, lads. He has a staff of engineers, a gong, swing sessions, stereoscopic sound, and "Music for the Connoisseur." All that is necessary now are the sponsors. Anyway OM, why don't you act the goat off the air and cut out the rot, and please gag a few of those engineers while the microphone is on. It's vile and disgusting.

Just reminds me, I've been chasing that ham (?) with the dirty ripply A.C. note on 14 mc. Boy, if I catch

(Continued on Next Page.)

Victorian Northern Zone Phone Section

(By VK3TL.)

For several years a number of hams in the north having been in the habit of having a weekly "rag-chew" on 80 mx. We discussed our difficulties and our successes, experiments we were making, alterations in our rigs, DX we had worked during the week and radio news of all kinds. As the number of stations increased difficulties arose. It was found that stations wishing to come into the qso were unable to do so, because those already in the qso did not happen to listen on their frequency. It was decided that some form of organisation was necessary if we were to get the most out of our hobby with the minimum of qrm. A set of rules were drawn up and given a trial. They have proved so satisfactory that we have been asked to give an account of our procedure for the benefit of others. Here are the rules in crystallized form.

1. The Section is controlled by a "Key Station" elected by the members.

2. At 0900 hours on Sundays, the Key Station calls "CQ Northern Zone—Phone Section." No other stations must use this call.

3. Key Station listens for replies and logs them, decides the order in which they are to transmit, and announces the order.

4. Stations transmit in that order.

5. When all have spoken, Key Station replies, and again calls "CQ Northern Zone Phone Section," or more shortly "CQ Northern—Zone," and any other members wishing to come in reply.

6. Key Station rearranges the order of transmission, giving preference to those who have just come in, and announces accordingly.

7. Stations come in in that order.

8. This procedure is repeated till the Key Station is satisfied no others wish to come in.

9. Time limit for each transmission, 3 minutes, unless a member has anything to say of interest to members generally.

10. Should any hitch occur, e.g., if a station fails to come on the air at the proper time, all stations listen on the frequency of the Key Stations for directions. This is essential.

11. Any station, once in the qso, wishing to withdraw, must wait his turn, and then advise the Key Station of his intention.

On paper this may sound complicated. In practice, it is simple and works wonderfully well. Directions issued by the Key Station are loyally followed, and these Sunday morning qso's have been really enjoyable to all taking part in them, notwithstanding the large number of stations.

Here is a list of the stations that have taken part with more or less regularity:—

3BM, 3CD, 3CE, 3DW, 3EC, 3EP, 3FF, 3FN, 3HR, 3HL, 3HK, 3HX, 3HN, 3HG, 3IH, 3KR, 3EI, 3NN, 3OR, 3TS, 3TL, 3WN and 3ZK. (Hope nobody has been overlooked.)

Of course, all of these are not in the qso every Sunday, but 7 or 8 is not at all an unusual number.

The Section is fortunate in having among its active members one (3BM) with an fb oscilloscope. By tacit consent he is not restricted to 3 minutes' transmission. He watches all transmissions and gives us frank reports of what the screen reveals—with very beneficial results so far as quality of transmissions by the Section is concerned.

(Continued from Page 14.)

you keying I'll put you right on the front page, and I don't mean maybe. Anyway you might stay in one place instead of going up and down the band; suggest you clear out among the commercials and QSO them. Well fellows I'm off to the rx again, so look out or you'll get a write up!

73.

THE "AIR RAIDER"

Revs. 3 tube T.R.F.

9 tube Super (xtal gate)

5 tube "

("Amateur Radio" welcomes the "Air Raider" who, we hope, will take the place of old "QRZ" and amuse and instruct.—Ed.)

28 and 56 M.C. Notes

(By VK3CP.)

These notes deal with conditions from the 16th to the 16th of each month inclusive. Ten metres has shown considerable activity during the last three weeks, although mainly from the States. OK1FF, r6 at 10.30 p.m. on 24th Jan., and several faint Europeans at 11.30 p.m. on the 12th Feb. keep us on the look-out during the evenings.

JNJ and JNM3 have fair strength during daylight, but increase greatly at night. In all probability the Europeans will come through consistently within the next month. During the heavy sun-spot activity (20th Jan., app.) ten metres was absolutely dead for several days. At present the stations in Hawaii have great strength—K6LCV always R max. (200 V, 400 M), K6BIR, 6OQM, 6OGS, 6MVX, 6ICL, 6LNP, 6MVV, all R8 phones, heard between 8 a.m. and 6.30 p.m.; at present peaking around midday. W7EMP is the most outstanding phone, the double 8JK beam and peak audio compression control (Nov. '37 Radio) give a perfect R9 signal in VK. The 35T's PP final is fully modulated by an audio system consisting of a Shure Xtal mike, 6J7G, 6C5 phase inverter, two 6J7's as the peak audio suppressing unit, PP45's and class AB2 PP par. 6L6G's, 6H6G peak comp. voltage rectifier. 7EMP is R9 at 2 p.m. durman W stations calling the following stations on ten:—TG9AA, 2T2G, T12FG, LU3DH, LU1EA, PY1AZ, J2MI, VP6YB, VE4ZC, and by the reports given are evidently being received at good strength. The following VK's have good strength here at 3CP:—VK4HR, 4AW, 7AB, 6LW, 2TI, 2TK, 2UF. VK3EN has good quality and is just starting on ten. His rig has a 6A6 Co 40X, quad. to 10, and unity coupled to another 6A6 PP. VK3IW has excellent sup. modulated phone with the RK20 final. VK7AB is going to use power on five for the next Field Day—Xtal control, 6L6G exciter, 35T on ten, 807 doub., Taylor T55 final. The tests are being conducted from Low Head where AC is available. K6LNP has an interesting outfit,

6L6 tri-tet, 6L6 doub., HF 100 final—1500 V, 225 Watts. The mod. has class A 45's driving 6L6's class AB2. These 6L6's give 95 Watts of peak speech audio. 450V on the plate. 116M each plate, 300V on the screens, 10-20M each control grid, 45V bias. VK3CZ has his 8 tube super finished and the results are all that could be desired. VK3BQ has a rotary beam in operation—two $\frac{1}{4}$ waves phased by a $\frac{1}{4}$ wave section and fed by the Johnson Q system. Two ropes outside the window turn the array wherever desired. The 8JK flat top beam, Zepp fed, is in operation here at 3CP and an increase of from 3-4 R points is noticeable, this lifting the weak signals to good readability.

From the States, W1KQN, 2INX, 4EEV, 5FLZ, 6ERT, 7EMP, 9DRQ are all R8 phones during the morning. The latter has an excellent outfit and worthy of notice; 6L6G Co. 40X, 807 Push, 210 PP, 808's PP with 200W. The mod. has a 6J7, 6J7, 6C5, PP class A 42's, 211 D's class B. The antenna is a rotary beam 50 feet high having two $\frac{1}{4}$ waves in phase with two $\frac{1}{4}$ wave reflectors excited parasitically. The beam is turned by an electric motor—controlled by turning a dial in the shack at the operating position. It is interesting to notice the variation in signal strength as the beam is turning—10 deg. off us reducing the strength several R's. W1CI, 2CKO, 3EVT, 6DUC, 6JN, 7DDU, 8BTI, 9ZNA CW fair strength to R8; the latter using PP 35 T's 250 W and a rotary beam, RME69 with DB20 pre-sel. complete an efficient outfit. W6KEI is another sure phone contact, the WE261A final with class B 801 mod., feeding an unterminated rhombic antenna. VK3YP is still in Queensland and hopes to look up the 10 metre gang. VK3XP and 3ZB are on 10 mx again, the latter with a rebuilt rig consisting of 6L6 Co 40X, 210 doub. 10 mx, PP T20's final, modulated by a pair of 50's. From New Zealand, ZL3KZ, 3DJ, and 4AO are the only consistent stations.

5IV has I believe just passed his commercial exam and now has that ticket. Good luck Roy ob, and drop a line and lets know all about it.

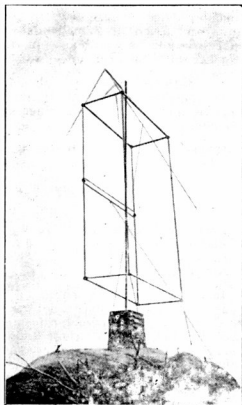
5LR.—Well haven't seen or heard Jack for weeks. How about a call some day ob.

5BF.—Still the good quality stuff one associates with Frank.

5LC.—Still pounds in. Les has been away for a much needed holiday and Les visited the tennis—now all the local Gladstone tennis players are being well and truly cleaned up by 5CL.

5RE.—Has completed the 10 and 20 metre rig and will soon be on those frequencies. In the meantime he appeals very sincerely for any notes on "the doing" of any of the gang in his zone. So please let's have them, chaps!

Portable 56 Antenna!



The aerial erected by VK3JO on the You Yangs for the last Field Day.

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Wireless Questions

Question . .

Q.: I have been told that the Osc. of a Super Het should be tuned to a higher frequency than the 1st Det.

(a) Is this so? (b) Why? —"O.D."

Answer . .

A.: (a) Yes, especially when used for reception on the higher frequencies.

(b) There is a very excellent reason for the alignment of the front end of a Super Het. in the manner that you state.

First, we must consider the function of the High Frequency Oscillator (H.F.O.) operating at a signal difference of, say, 465 kc.

The H.F.O. is designed and built for the purpose of supplying a steady voltage to the mixing tube (1st Det.), of such frequency that it will be 465 kc off resonance with the mixed grid circuit (incoming signal). This results in a 465 kc beat which is the carrier frequency that is fed to the I.F. Amp. from the mixer.

We can now see that to get an even response in our I.F. Amp. at all signal frequencies we must have a moderately constant voltage available from our H.F.O.

Now, it is a characteristic of all Oscillators that their voltage output is proportionate to the amount of "C" in their oscillatory tank. Giving higher voltage output for high "L."

From this, then, it is at once apparent that we must keep our H.F.O. tuning capacity as small as possible, consistent, of course, with band width, etc., if we are to obtain maximum efficiency from the circuit. This then, in turn, necessitates tuning the H.F.O. to the higher frequency side of the incoming signal.

N.B.—It is noticeable that tuning the H.F.O. to the low frequency side

of a signal on, say, 160 or 80 mc does not make a great deal of difference to the available output or sensitivity of the Super, but such a procedure, if adopted on frequencies of 7 mc or higher, does definitely lower the conversion gain. This at first puzzling effect is due to the inherent properties of the H.F.O. at low frequencies, the voltage output on low frequencies being of such magnitude that the High C losses are negligible. "T.D.S."

"DOPEY" COILS.

The following facts were discovered when it was decided that single band operation left much to be desired. Several methods of band switching are known, but as link coupling was used, plug-in coils seemed to meet requirements.

At that time molded "mud" formers were the only type available, and a set of 7 mc coils were space wound, the windings being held in place with duco cement.

When these coils were placed in operation it was immediately noticed that the circuit losses had increased considerably.

Investigation soon showed where the fault lay.

The following table should prove interesting:—

Former.	Duco-Cemented.	Circuit Loss in Watts.
Bakelite	Yes	12.5
Bakelite	No	9
Air Wound	No	7

Just a word in conclusion. When your transmitter does not work according to your favourite designer, QST, Mr. Jones, or "Amateur Radio," please don't abuse the writer, check your insulation.

SUPPORT YOUR ADVERTISERS

DX Notes

(By VK3MR.)

Here we are again! Back to the grindstone! The signs of over modulation by the editor mentioned a few issues ago exceeded all bounds of oscilloscopic vision when I was unable to write any notes for February. I understand the viggie comm. has caught him at last. The other charge was obscenity. He was due for a rest.

Some good dx has been heard and worked during my absence so I will have to wake up a bit. Big mail (spelt M-A-I-L) was awaiting me on my return from VK7. Glad to get all letters. 3XQ been active and getting amongst the dx between 9 p.m. to midnight. CT2BC about 14360kc to be worked about 1 a.m., also several other CT's worth chasing. Bulldog (3XQ) also got a rare one in CNSMS, 14,300 kc., 2 a.m. 3CX now 113 countries,—any better?—the latest being 17AA (Addis Ababa). ZB, SV and SU report working 3YV's from Venezulela. Can't work a YR though. 2KZ from the coal fields reports ST6LR 14100 kc every a.m. at 6. His best work being the raising of the first Junr op on Jan. 17. 9 lbs. born too, congrats om keep it up. Another of the coal miners' gang is 2DG, who supplies dope re HO2UA, "W" on ship, will qst ok. QRA, Box 181, El Cerrito, Calif. He points out that J8 is not an island! As well as ST6KR he worked I7EY also in Addis Ababa, 10 pm, 14400 kc or so; 3QK during the month worked about 25 countries the best being YL2BB, 14350 kc, and YL2CG, 14380 kc around midnight; also our hero OA4J now in the band, 14340 kc. Two very interesting letters from 4RC and 4CW who both advocate the use of 7mc for dx. Their list certainly speaks for itself. How I think of the good old "daze" when the early am European dx was a pleasure to work. 4CW only a new chap on and has fine dx list on 7mc and only using 23 watts—cu on 7mc om. Dx condx seem very poor during Jan. no doubt due to the sun spots.

It is well known that dx condx are not the same in each state and I am endeavouring to get something definite about it and want a few helpers. 4RF has offered to help. What about the other states. I want all the dx heard and worked to be sent to the state representative, who will pass it on to me after examining the position and by that way we shall check up on a few points in doubt at the moment. I have already drawn a very interesting map which will explain "WHY" especially for VK6's benefit.

Contests.—BERU Sen. is been and gone. So far no results to hand—no one interested enough to let me know. I had a listen and all I heard was a lot of BERU stations calling 3EG. Hope Ivan gets the trophy for keeps this time (no opposition from 3MR, hi!). Let's hear about it. All Band CW test.—VK7AB, winner of this test last year, seems a certain winner of the IRE Trophy. His score is 1090; 2RA, 960 and 6SA 715. The time of the year was against this test owing to the static on 80 and 160 mx. 6SA had no contacts on 160 or 10 mx. To get his score, 7AB had to put a lot of work into it and showed good judgment in changing bands

A most interesting and instructive booklet has been published by the Radio Inspectors Department. This Handbook has been prepared by Mr. P. Dunne, and approved by the Department as a guide to operators of experimental wireless stations. It completely covers regulations and forms of procedure for all amateur operators. It is understood that these handbooks are procurable at a cost of 1/- each from The Radio Inspectors Department or McGill's Agency, Melbourne. Furthermore, it appears that this handbook is to be used as a textbook for A.O.P.C. examinations in the near future.

Out of Band Operation

Quite a number of amateurs have lately been observed working in forbidden territory, that is, outside the bands which have been allotted for their exclusive use.

This practice, it will be realised without lengthy consideration, while it certainly reduces the amount of qrm which offenders have to contend with on the legitimate bands, is very detrimental to the interests of amateur radio generally.

The P.M.G.'s regulations require us to confine the frequency of our transmissions not only within the specified bands, but sufficiently remote from the edge of such bands as to ensure that no interference is caused to services operating in adjacent bands.

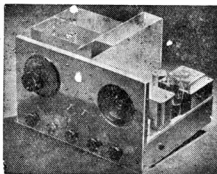
Apart from any action which we might expect to be taken by the authority concerned, and the possibility of jeopardizing our prospects of retaining any privileges extended to us, we have a moral right to establish a spirit of esprit de corps and aim to keep amateur radio in Australia on a high plane.

Now, then, fellows, it's up to you to do something about it. Those of you who are deliberately flouting the regulations and deliberately trespassing in other people's preserves, will be well advised to withdraw within territorial borders. Those who, through carelessness or lack of technical knowledge, are also offending might improve matters by seeking advice from more experienced hams. It is desirable that some efficient method of frequency control be employed and that all transmissions be correctly monitored.

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- RF Stage
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Divisional Notes

To ensure insertion all copy must be in the hands of the Editor not later than the 18th of the month preceding publication.

MEMO TO CORRESPONDENTS.

Due to the lack of uniformity in the amount of notes received, the Editors have drawn up the following figures as a guide to contributors:—

N.S.W.—1600 words.

South Australia—1000 words.

Queensland—600 words.

Tasmania—400 words.

Victoria—1800 words.

Please double space all copy. This makes the work of the Editor and linotype men much easier. Write in plain language and avoid abbreviations. It would be a great help if the correspondent for each State would collate all the notes from zone officers, and submit them as a complete report from his State, keeping them within the limits shown above.

N.S.W. Division

W. G. Ryan, Secretary, VK2TI,
Box 1734 JJ, G.P.O., Sydney.

Country Zone Officers.

Zone 1 (Far West).—J. Perooz, VK2PE, Hope Street, Bourke.

Zone 2 (North-West).—H. Hutton, VK2HV, Byron Street, Inverell.

Zone 3 (North Coast).—R. J. Berry, VK2NY, 54 Bacon Street, Grafton.

Zone 4 (Hunter River and Coalfields).—R. W. Best, VK2TY, 57 Hunter Street, Newcastle.

Zone 5 (South Coast and South-West).—R. Ross, VK2IG, 673 David Street, Albury.

At the January meeting of the Division a lecture was given by Mr. G. V. Hume on the subject, "Modern Radio Valves." Mr. Hume described

the manufacture and testing of the various types of receiving valve made locally, and his talk was illustrated by an excellent series of photographs taken in the Phillips Valve Factory recently established in Sydney.

Some discussion took place on the subject of the ballot for election of officers, and it seems likely that this will be changed before the elections in March.

Some results are to hand for the 1937 D.S.D.C. contest, and the following scores may be of interest:—D4CDM, 865,878; D3DSR, 807,798; VK2ADE 179,758; VK3MR 118,048; VK2JX, 91,290; VK2TI, 82,376.

Quite a lot of interest was taken in the I.R.E. Trophy Contest, which appears to have been won by 7AB. Conditions were patchy, and, so far as is known, no interstate signals were heard in Sydney on 28 mc. Some approximate scores:—7AB, 1,090; 2RA, 960; 4AW, 900; 2VN, 2AS, 850; 2EO, 750; 2LZ, 2NY, 2YL, 2PZ, 2ADR and 2AFJ were also active.

Conditions were reported fair for the Senior BERU Contest, but some found difficulty in raising new stations the second week-end. 2TF apparently leads for N.S.W. with 604, 2EG 543, 2AS 528, 2TI 343, 2PX 296.

The preliminary heats for the W.T.S. Crawford Trophy were held on Tuesday, 15th February, twelve qualifying for the final to be held in April during the Convention week. Mr. Crawford examined 9 non-club members at his office and members of his staff conducted heats in three of the radio clubs. Those successful in qualifying for the final are:—VK2ABH, 2ABS, 2AEN, 2AHH, 2AHJ, 2AS, 2CE, 2NP, 2PN, 2RA, 2YY and 2ZK. With two months in which to practise there should be some first class operating in the final.

Amateur Radio

ZONE 4 NOTES.

(By VK2TY.)

Things have been happening lately in Zone 4. Stan 2ZW decided after a holiday in VIS to open up in business selling pills to the lads out Bankstown way. Now that was the start of our worries as 2ZW was the President of the NARC, so after electing 2KB in his stead we turned to our next problem, which was the small matter of finding a place to park our clubroom. For the past 6 months we have been at 2ZW's shack, but when Stan went, the club could hardly expect the next tenant, not being a "ham," to tolerate us.

Our address now is the same as it was six months ago, c/o "Sun" Buildings. Hunter street, Newcastle.

Two new "hams" will be on the air in Newcastle shortly following upon their success in the October Exam. One is about 18 and the other not yet 17, so you see we catch 'em young in Coalopolis.

I believe that some of the Coalfields boys have teamed together and call themselves the "Black Diamond DX Gang." The culprits are 2DG (who incidentally hopes to win the Johannesburg contest for VK2), 2YL, 2XT and 2CW (and when they use the term DX they sure mean it).

2BZ, 2AHA, 2AEZ and 2UF still smash holes in the ether with 808's, and now 2DG has been added to the list. Boy, what a racket!

2WU threatens to put his 203A back in commission any time now, so what's the good of 50 watts?

ZONE 5 NOTES.

(By VK2IG.)

There appears plenty of activity on most bands in the contest and also conditions seem to be more favourable than for some time. This applies to all bands and some good DX is to be had on forty.

2OJ is not on for the time being as his daughter has been very ill, but is now progressing satisfactorily, but Noel is barred from the shack.

2AP also not on as yet as his recvr is at OJ's and also has not decided on his gra.

2VK has xtal on forty and is hearing the DX ok but finding them hard to raise at his location. DX there, VU, J, YHO, W, VE, etc.

2EU is flat out putting his super together, but gets delayed thru not getting parts.

2QE still plenty qrl and has wrecked the rig prior to rebuilding. Seems the chaps in this zone do nothing else but. Hi!

2AFD still on holidays and making it a full time one at that and too lazy to get going we reckon!

2IG been changing things around and in consequence has not been on. Hopes to have new rig on soon. Also had some advice from the Vig. Comm. so you other VK2's in VIS who are consistently misoperating had better look out.

2FQ busy filling the log with locals and DX and sure getting out well now.

2DN hasn't conquered the five mx band yet and wants more co-operation with interstaters. VK3 hams should arranged skeds with DN as its a swell chance for that first 5mx contact as he is right in the plains.

2AF a bit quiet but believe there will be tons of qrm on forty at any time. Enuf to satisfy everybody in fact!

2UO.—They say that no news is good news, so that should mean that UO is well on the way again. Or is it?

2JA concentrating on fone DX and seems to raise 'em easy too. What is the recipe om?

2AEO wants the dope on making aerial masts behave. Says anyone wanting help with their masts to call on him when he's out!!

Say you chaps around Canberra, how about some dope from there? Surely you fellows do things occasionally, if so or if not let us have it. Just drop me a short note if any of you will co-operate with these notes each month. Who is going to be the first?

WAVERLEY RADIO CLUB NOTES.

(VK2ABS, Secretary.)

Final arrangements have been made for the Club's 19th Birthday Party, to take place in the clubrooms, 13 McPherson street, Waverley, on Tuesday, 1st March, at 8 p.m. Quite a few of the local celebrities will be present and a good time for all is assured.

2AFG has temporarily abandoned the rig and spends all his time (and £5 notes) on his beloved (?) motor bike. What a shame! Also preparing for some low-fidelity fone.

2AHJ has eventually succeeded in obtaining some R.F. output from his H6 buffer, thus narrowly averting a

severe nervous breakdown. Now that the rig is working satisfactorily, is going to tear it to pieces and rebuild. Also gargles his tonsils with nitric acid every morning in preparation for forthcoming fone permit.

2AFZ seen recently rushing around in his pal Mac's car, brandishing a large loop antenna and D.F. receiver. Explained that he hears a pirate playing records at nights on 40 mx and intends to call in person and give him a report. We can suggest a suitable report, Eric!

2EG seen recently walking around town with a dreamy far-away look in his eyes. What were you thinking of, Dev.? Was it a YL or just a choice piece of DX?

2WN is QRL Exams. Is already a B.Sc., but wants to be a B.E. as well—some chaps are never satisfied! Best of luck, Maurie.

2FJ had someone once tell him to "go to blazes" so took their advice and has been going to 'em ever since in the company of the local fire brigade.

2AHB now has to get up about 5 a.m. every morning to go to work, so can only work DX until about 3 a.m. now, as he believes in getting plenty of sleep.

ZERO BEAT RADIO CLUB.

Well, we're now in March, and the prospects of the Club are even better than expected. Already membership has increased by 25 per cent. while the number of Hams in the Club is 50 per cent. higher than last year.

At the last general meeting held in the clubrooms, the Transmitting members decided to run a series of sessions of morse practice and club news for members, an either 20 or 40 metres, each Sunday morning from 10 till 10.30 a.m. Below are given the call signs and ferquencies of participating stations for March:

VK2AEN, 7270 Kcs, March 6th.

VK2ABH, 14051 Kcs, March 13th.

VK2AFQ, 14080 Kcs, March 20th.

VK2AEE, 7030 Kcs, March 27th.

The Club members have decided to hold a Field Day on the third Sunday of every second month, commencing 17th April.

The Morse class for A.O.P.C. aspirants is progressing very favourably, and members with a little more practice will be ready to sit for their ticket.

The lectures which are run in conjunction with the Morse Class, are also proving to be of great assistance. Incidentally, a synopsis of the lectures given in the club rooms are put over the air for the benefit of country members.

Mr. A. Jocelyn and Mr. H. Cullerton, who were successful at recent examinations, should soon be on the air. Mr. Jocelyn has decided to use a 59 Tritet-Penthode Osc. with a 59 as amplifier and a Jones Multi Band Antenna.

Mr. H. Cullerton will be using a 6L6G osc., 6L6G doub., and a T20 or 809 in the Final.

Everybody is requested to look for VK2ZB on 7120 Kcs approximately, every Friday night from 6 p.m. to 6.30 p.m., 7 p.m.-7.30 p.m., 8 p.m.-8.30 p.m., when it will be on with a session of Morse practice, club news and a synopsis of the lecture given in the Club Rooms. Reports on the transmission of 2ZB, and, for that matter, any stations that mentions the fact that the session is on behalf of the club, would be very much appreciated, and all reports would and will be acknowledged with the card of the station concerned in the report or reports.

VK2KH.—Uses 6A6 Jones Exciter 6L6G doub., T20 Final with 30 watts input, has just changed over to xtal after about 3 years of operation with Electron Coupling; works KA's, K6's, XU's, J's, W's, with Jones Multi Band Antenna about 12 ft. high, running North-South.

VK2IK.—Not doing much on the air; packing up for England, expects to be away about two years, and possibly return via the "States."

VK2IQ.—Still works plenty DX, although very QRL with study; was heard using a Reinartz Beam on 28 mcs.

VK2ABH.—Has been using a '56 to modulate a '10, running at 7-12 watts input, with "Telefunken" system. Will soon have P.P. 807's in with Grid Modulation. Says he heard it mentioned that all Zu and Zt calls would be changed to Z's.

VK2AEE.—Trying to get a Portable Transmitter Receiver to operate from the one power supply, otherwise pretty QRL with study.

VK2AEN.—Uses a 2A5 Electron Coupled Osc., with a '45 as amplifier grid modulated with another

2A5 to make a noise on 40, got R5 from W2 with 7 watts input also on 40.

VK2AFQ.—Like his brother, is also pretty busy, and only managed to get on 14 and 28 about 2 nights a week.

Well, that's about the lot this month, so if anyone is interested in the above club they can communicate by letter to the Zero Beat Radio Club, Gregson's Studios, Sydney Arcade, George Street, Sydney, or call at the Club Rooms at above address on Friday nights.

Victorian Division COUNCIL NOTES.

A meeting of the council was held 8/2/38. A report of the inaugural meeting of the new Short Wave Phone section was received. Matters appear to have been put on a good basis in this new section and much is expected from them.

Messrs. Ohrbom and Campbell were appointed to look into the possibility of running an exhibition of amateur gear in the Institute rooms. If you are interested, forward your ideas to these gentlemen.

The Magazine Committee was authorised to purchase a new block for the magazine cover.

Accounts amounting to £32/12/6 were passed for payment.

UHF SECTION.

(By 3JO.)

**Big 5 Metre Field Day, February 27.
Country Stations Co-operate!**

The big event of the month was "The" Field Day. Though results are not to hand in time to publish this month, it may be interesting to set out the locations from which stations were operating. In addition to the list of stations published last month the following stations participated:—3UH, Kinglake; 3XW, Arthur's Seat; 3ML, Mobile.

3DH was at Mt. Dandenong instead of Mt. Macedon. Several stations in Geelong also notified their intention of co-operation.

We have not yet had the opportunity to attempt a direct 5 mc contact from Melbourne to Geelong, but as there appears to be no reason why this could not be accomplished, the Melbourne stations will be eagerly looking forward to the 27th.

Another interesting aspect will be to see if 3HZ at Warragul can be heard in Geelong. It will be remembered that his signals were R8 at the You Yangs on the last Field Day, the only difference between these locations being that the latter has the advantage of height.

Apart from the VK3 activities there will be intense activity in Northern VK7 and several hams will be operating portable and other gear from many vantage points.

Members of this section read with interest the letter by 3LL in last month's issue and agreed that the idea is a good one and deserves all the support we can give. 3LL is assured of any co-operation he may require from this section in order to get his scheme under way.

Activity is maintained on the 56 mc band and during the month 3VH/3JO made a trip to the Camel's Hump, Mt. Macedon, and had no difficulty in working the city stations. However, no success came to our efforts to contact 2DN, 3HX or 3HZ.

The March meeting will be held on Tuesday, 15th, so come along and join in the discussion arising from results achieved on the Field Day.

SHORT WAVE GROUP NOTES.

(By O. E. Davies.)

The group is going along in the same smooth way as usual. Meetings being well attended and the individual members carrying out experiments of a general nature.

A very interesting visit was held on January 27, when the Group was the guest of the Management of 3DB. "The "Minstrel Show" was the first "thrill," this was followed by an inspection of the control room, recording plant, new studios and the "Diamond Point" equipment. May we again thank the management for a very "fb" visit.

Our visit for February will be to Station 3UZ.

The visit to the P.M.G.'s Lab. will probably take place in the last week in March. Members desiring to make this visit can ascertain the exact date from their Section Sec. or direct from the Sec. of the S.W. Group.

Group Activities.

3JO now trying Xtal on 5. Still a bug or two in the rig as yet. Expects to be OK soon.

3XJ still CQ 20 mx phone. Dx for pref.

Amateur Radio

3WQ not seen for some time.

3KP will shortly be with us again after a tour of "G," "W," etc. Expect will have some fb gear when he arrives back.

Bert. Burdekin troubled with QRN and QRM, etc. Then decides to build 5mx Super regen. Oi.

Rest of the Group QRL the A.O.P.C.

COUNTRY SECTION NOTES.

The preliminary organisation of the Section is now practically completed, as only the Executive in the Western Zone have yet to be appointed. I want to welcome our old friend VK3PR as the Zone Officer, and VK3DI as the Notes Correspondent for the Eastern Zone, and also to reaffirm VK3HX-VK3ZK as the Notes Correspondents of the Northern Zone. You Country men have got to help your Correspondents to make your Zones Notes interesting by supplying them with regular news of your activities. The weekly broadcasts from 3WI and subsequent relay by VK3EP seem to be proving satisfactory from the numerous re-

ports that have come in from all parts of the State.

EASTERN ZONE NOTES.

3XZ.—Have not heard you lately, Mac. How come?

3HZ.—Reported to be on 5 mx.

3DI.—Now in the radio business in Leongatha. Getting out well on 40 mx fone with only 3 watts and a very poor ant. system.

3PR.—Sold 6P6 and replaced same with Philips TC 03/5-1 with improved efficiency. Also built new receiver.

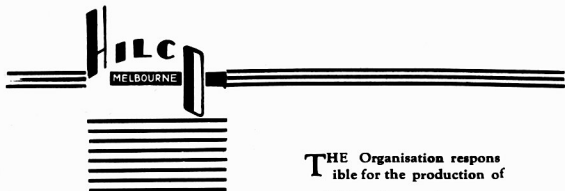
3EA.—On 40 mx fone. Sounds quite good too.

3OR and 3BM paid a visit to the Eastern Division in Jan. and it is reported that they painted Omeo red. 3WE hasn't been heard since. Anything missing Bill? Hi, hi!

3BR.—Busy fixing things up before clearing off to VK 4. Off at last Jack says.

3DG.—Not on much going to have

3GO.—Graham qrl but when on put out a nice sig on 40 with 6P6 Xtal osc es 6L6 Doubler feeding half wave Zepp as about 10 watts.



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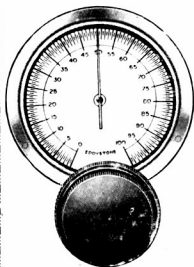
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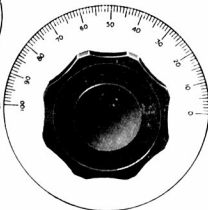
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R. H. CUNNINGHAM, VK3ML

1449 HIGH STREET, GLEN IRIS, S.E.6., Vic.

Amateur Radio

a big rebuild recr, mitter, etc. Hopes to put on fone agn. Old 6P6 given up the ghost.

3IL.—Not heard for months, Bob must surely found a new way of putting in the time on the Island Hope to hear of you staging a comeback Bob om.

3JZ.—A new arrival to Gippsland and not heard on air yet, but hope to hear from you soon om.

3LY.—Congratulations to you Rob ob upon your engagement, maybe we will hear more of you, now, what say?

3QB.—Jack trying hard for WAC on 7mc only wants Europe, Sth America doing a fb job with 28 watts input to 802.

3SS.—Keith been qrl with exams and only gets on occasionally with fone, quality could be improved, otherwise fb.

3XH.—Have not heard Stan for a while, just waiting for his fone permit to come along, I am told.

NORTHERN ZONE.

(8ZK—3HX.)

Now that the formation of the country section is well under weigh, these notes previously known as the Mallee and Northern District notes will appear under their official heading, viz., Northern Zone. This zone, fellows, we hope you know, extends from the Hume Highway in the east to the Western Highway in the west, the VK2 border in the north and as far south as the metropolitan boundaries, so you will see that the zone correspondents have a large territory to cover with probably the biggest number of Ham than either of the other two zones, so we ask you to co-operate and let us know your doings so that we can make these notes worth while. By next month we will have some scheme arranged so that we will spend some time on various bands to receive your dope if you are sufficiently interested.

The organisation of the zone is in the capable hands of Mr. R. E. Trebilcock, VK3TL, of Kerang, who will

have several schemes to put forth shortly as soon as they are completed and received approval of the WIA Representative VK3UK.

It is the intention shortly to make a drive for WIA membership in this zone, because we want this zone to be 100 per cent. members of our Institute, for it is only by this means that we can guard the interests of our hobby.

If you are not a member, join now, and have the satisfaction of saying that you helped to build up the zone. Nomination papers and information can be obtained from VK3TL, WIA headquarters, Melbourne, or either of the two stations signed above.

A convention is to be held as soon as a convenient date can be fixed suitable to everyone.

So chaps, the success or failure of this zone is in your hands, but we feel sure that there will be no failure, for it will be "United we stand."

South Australian Division

(By VK5KL.)

At the transmitters' meeting on February 2 items to comprise the agenda for the convention were fully discussed by those attending. During the year items that have appeared for years on the convention agenda have borne fruit, so it is interesting to see if the same will occur this time.

The most astounding fact this month is the increase in serious activity on the 56 mc band. Stations active at the moment are VK5's BC, GB, GF, KL, LW, JU, MK, RT, TR, WK and 5ZU. The trend is to better receivers and stable transmitters. 5BC, 5RT, 5TR and 5ZU are using dual, but the others stabilised oscillators. Everyone is building TRF receivers for reception of phone and cw and to minimise interference caused by super regeneration. Interstate chaps are asked to communicate with 5KL advising times convenient to arrange skeds.

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Amateur Radio

In the contest held in conjunction with the Sydney celebrations, the only score to hand is VK5JT, 1120 points. Mr. Barton, VK5BN, of Mt. Gambier, has been enrolled as a new member. Many chaps are desirous of reforming the Technical Department Section, so we may see something done very soon.

The BERU contest is in progress, but as conditions are poor on 40 and 20 the best band is 10 meters and most overseas activity is centred around that band.

Country member, Mr. Graham F. Barton (VK5BN), of Mt. Gambier. Welcome into the Gang OM. You are in Barker Zone. Please keep in touch with your zone officer, VK5GW, of Naracoorte. Let him have particulars of your station, and activities.

WAKEFIELD ZONE NOTES.

by VK5RE.

Old man static rules the air in the Wakefield area—and rules it with a rod of iron and fortunate indeed is he who can penetrate the barrier that stretches across the sky.

A few W's come whispering in but little else in the way of DX.

Of the VKs—VK3 comes thru with a fair degree of regularity.

Heard VK3FR and VK3IG on very nice Tq cw working recently.

5LR is on the air again; Jack has been off for several weeks but heard his very fine fone dominating the air recently.

5IV also on again — Roy has put out some very good stuff from the DC supply but now that he has the A.C. laid on we can expect something extra from Berri.

5BF still comes in with a wonderful punch—Frank has the goods.

5 LC "The low power king" shatters the speaker with the sigs, from his 4 watts input Xmitter. And the quality is extra.

GREY ZONE.

(by VK5WG.)

Conditions during January and up to mid-February have been most unsatisfactory for DX. During the latter part of January a complete fade-out of signals occurred and very little DX was heard for several days.

Here is some dope on zone members:—

5FB.—Frank is still in Sydney, but should be back within a couple of weeks.

5LC.—Les, I believe, is interested in 5, trying different antennae.

5LG.—Leith wrote me saying he will be on 5 shortly and would co-operate with skeds, so drop him a line, also on 14 mc cw.

5WG.—Yours truly trying to work DX on 14 mc, but cond punk.

5AT.—Bert is still QRL work.

5BK.—Jack is still at 5CK.

5NW.—Where are you Snow? Haven't heard of you since New Year's Eve, I got over it o.k.! hi!

5HR.—Bill has closed down again, QRL studies I believe. Best of luck Bill.

5TL.—Mr. T. Laidler is a new ham at Ceduna, only on battery power as yet, so give him a shout boys. I'll look for you, om.

Mr. Col. Bottrall is still pegging away in between busy periods.

BARKER ZONE.

(By VK5GW.)

Very few hams in this zone have been heard on 40 and 20. 5XR, after being off the air for some months, made a great comeback the other Sunday a.m. with phone on 40. The records were a good effort, but a hum was noticeable, which has been overcome. The speech being o.k. and a good job on an input of 3 watts. 5XR is getting set for A.C.

5PB still thinking about rebuilding.

5JK not at it yet. Pressure of business the cause.

5CH has changed QRA to Geelong, Vic.

5GW at last has receiver in commission and hopes to have the old xmitter on the job very shortly.

Have not heard anything of 5HK for some time.

5KH, who has been stationed at Naracoorte for 3 weeks has now returned to his home QRA.

Say chaps let me know what you are up to, and send any dope you have before the 8th or thereabouts.

Queensland and Tasmanian Notes were received too late for publication.

R.A.A.F. Reserve Notes

THIRD DISTRICT. (VK3UK-3ZI.)

Discussions are still under weigh at Headquarters, but it is hoped that the details of the new organisation will shortly be decided.

3B3 passed through Melbourne last week on his holidays, and he was able to spare the time for us to have a good talk over matters of interest. He will not be back in Coleraine in time for the 56 mc Field Day on the 27th February, so it is possible that 3B5 will not take part by himself. 3B3 has a Bruce erected, and has high hopes of a "DX" QSO with the Metropolitan men.

3D6 and 3D4 are very active on 56 mc, and are taking part in the Field Day. 3Z1 and 1A1 are planning to go down the Western District somewhere, although their exact plans are still uncertain.

1A1 is house-hunting, and has threatened to take a place near 3Z1. The local Hospital Diathermy racket is bad enough, and 3Z1 has told him to come close enough to be sociable, but . . . !

Australian and Victorian QSL Bureau

(R. E. Jones, VK3RJ, QSL Manager)

Snowy Harrisson (VK3CN) expects to be passing through Melbourne en route to Hobart about February 17th, and on the way home about March 9th.

Cards are on hand at the Bureau for:—VK3AP, AT, BJ, BN, BS, CA, CC, CU, CV, DJ, DS, DT, DQ, DU, EL, ES, EZ, FF, FM, FN, FT, GN, GP, HE, HT, IR, JM, KP, LI, LH, LV, NA, NB, NG, NI, NT, OU, PA, PH, PN, QR, QS, SE, ST, SZ, TC, TG, TQ, TY, UJ, VB, VJ, VM, VY, WH, WR, WW, XA, XD, XE, XG, XZ, YA, YF, YG, YM, ZF, ZG, ZJ, ZU, ZZ, Ashman Webb.

A stamped envelope will secure them.

The QSL Manager will have returned from a vacation in the Warburton and Yea districts by March 9.

Hamads

Advertising space in these columns is available to those wishing to sell, buy or exchange, at 3d. per line; approximately five words to the line. Minimum charge, 1/-. To ensure insertion enclose postal note or stamps with copy, and address to the Advertising Manager, "Amateur Radio," White Horse Road, Box Hill, E.11., Victoria.

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